Bay-Delta Conservation Plan
Central Valley Project

OVERVIEW

The Central Valley Project's initial covered activities can be broken into two categories: 1) operation of CVP Delta facilities to convey water through the Delta for project purposes; and 2) associated maintenance, monitoring and other related ongoing activities.

The goal of the CVP is to maximize, on an annual basis, opportunities to deliver water for project purposes. While the volume of water delivered for south of Delta CVP project purposes is currently constrained, it is anticipated that development and implementation of the Bay Delta Conservation Plan will result in improvements to the system to restore south of Delta agricultural, municipal, industrial, and provide supplies for south of Delta environmental purposes.

The system improvements are expected to result from an assessment of the efficacy of existing activities undertaken by the CVP to mitigate, conserve and/or restore affected fish and wildlife. After the review, a new set of activities will be implemented that allow the CVP to achieve its goal while providing concurrent mitigation for the impacts of the CVPs covered activities on, and a level of conservation/restoration for, the covered species.

There are other CVP activities occurring upstream and outside the legal Delta, such as reservoir operations and water deliveries, which affect the availability of water in the Delta for the CVP. These other activities include compliance with CVP water rights, flood operations, the Coordinated Operating Agreement, the Central Valley Project Improvement Act, and biological opinions, which affect operations of CVP reservoirs on the Trinity, Sacramento, American and Stanislaus Rivers.

Federal Authorization Affecting CVP Activities

The Reclamation Act of 1902 authorized funds from the sale of public lands to be set aside in the "reclamation fund," to be used for the construction and maintenance of irrigation works and for the storage, diversion and development of waters for the reclamation of arid and semiarid states. In addition, sections 9(c) of the Reclamation Project Act of 1939 authorized the Secretary to enter into contracts to furnish water for municipal water supply or miscellaneous purposes.

The first Federal authorization of the CVP was by the Rivers and Harbors Act of August 20, 1935. The CVP was reauthorized for construction, operation, and maintenance by the Secretary of the Interior pursuant to the Reclamation Act of 1902, as amended and supplement by the Rivers and Harbors Act of August 26, 1937. The 1937 Act also provided that the dams and reservoirs of the CVP ". . . shall be used, first, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses; and third for power."

The Central Valley Project Improvement Act (PL102-575) amended those and other previous authorizations, adding as project purposes "to protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California", "to address impacts of the Central Valley Project on fish, wildlife and associated habitats", and "to contribute to the State of California's interim and long-term efforts to protect the San Francisco Bay/Sacramento-San Joaquin Delta Estuary." The CVPIA provides tools to accomplish these goals.

COVERED ACTIVITIES

Delta Operations for Water Conveyance

Today Reclamation delivers water transported through facilities in the Delta to senior water rights contractors, long-term CVP water service contractors, refuges and waterfowl areas, and temporary water service contractors south of the Delta. The total volume under contract, including Level 2 refuge supplies, is approximately 3.3 MAF. Additionally, the CVP is mandated to provide Level 4 refuge water totaling approximately 100,000 AF. Moreover, in wet hydrologic conditions when CVP storage is not available, water is made available under temporary contracts. The volume of water available for conveyance through the Delta is a result of hydrologic conditions, upstream reservoir operations, upstream demands, regulatory constraints on CVP operations, and from transfers of water from upstream water users to south of Delta water users. Because of changing crop patterns and increasing urbanization, demands are expected to increase in the future. At a minimum, the current capacity of C.W. Jones Pumping Plant of about 3.7 MAF and coordinated operations are likely to be needed to fully meet these future demands.

Existing Water Conveyance Tools

Delta Cross Channel

The Delta Cross Channel is a gated diversion channel in the Sacramento River near Walnut Grove and Snodgrass Slough. Flows into the DCC from the Sacramento River are controlled by two 60-foot by 30-foot radial gates. When the gates are open, water flows from the Sacramento River through the cross channel to channels of the lower Mokelumne and San Joaquin rivers toward the interior Delta. The DCC operation improves water quality in the interior Delta by improving circulation patterns of good quality water from the Sacramento River toward the Delta Facilities, and other diversions in the Delta. Reclamation operates the DCC in the open position to (1) improve the transfer of water from the Sacramento River to the export facilities at Banks and Tracy Pumping Plants, (2) improve water quality in the southern Delta, and (3) reduce saline intrusion rates in the western Delta. Whenever flows in the Sacramento River at Sacramento reach 20,000 to 25,000 cubic feet per second (cfs) on a sustained basis, the

gates are closed to reduce potential scouring and flooding in the channels on the downstream side of the gates. The DCC gates can be closed by Reclamation for the protection of fish, provided that water quality is not a concern in the Central or South Delta. Pursuant to permits granted by the State Water Resources Control Board and as required by conditions of biological opinions, the gates are currently operated to comply with certain fishery protections. During late fall, winter, and spring, the DCC gates are often periodically closed to protect outmigrating salmonids from entering the interior Delta. From November through January, the DCC gates may be closed for up to 45 days, and from February 1 through May 20, the DCC gates are closed for fishery protection. For that same purpose, the DCC gates may also be closed for 14 days during the period from May 21 through June 15. Reclamation determines the timing and duration of the closures after consultation with the United States Fish & Wildlife Service, California Department of Fish & Game, and NOAA Fisheries. Changes in the operation of the gates may occur as a result of implementation of BDCP Conservation Strategies.

C.W. Jones Pumping Plant

The C.W. Jones Pumping Plant (formerly known as the Tracy Pumping Plant) is located about 5 miles north of Tracy and consists of six pumps, including one rated at 800 cfs, two at 850 cfs, and three at 950 cfs. Currently, when Delta water supplies are available and exports are not constrained, the plant may divert up to 4,600 cfs into the Delta Mendota Canal for direct delivery or diversion into storage. The C.W. Jones Pumping Plant is at the end of an earth-lined intake channel about 2.5 miles long. As discussed in more detail below, at the head of the intake channel, louver screens intercept fish, which are collected and transported by tanker trucks to release sites away from the pumps. A portion of the water conveyed through the DMC flows into O'Neill Forebay and from there can be pumped into San Luis Reservoir for storage or delivered via the San Luis Canal.

Tracy Fish Collection Facility

The Tracy Fish Collection Facility uses behavioral barriers consisting of primary and secondary louvers designed to prevent specific fish species from entering the pumping plant, and to guide them into holding tanks before transport by hauling truck to release sites within the Delta. The louvers are operated with the objective of achieving water approach velocities appropriate for striped bass and salmonids. Fish observed during sampling intervals are identified by species, their fork length is measured, and they are examined for marks or tags, and then placed in the collection facilities. The CVP maintains two permanent release sites: one on the Sacramento River near Horseshoe Bend and the other on the San Joaquin River immediately upstream of Antioch Bridge.

Contra Costa Water District Diversion Facilities

CCWD diverts CVP water from the Delta for irrigation and M&I uses. Prior to 1997, CCWD's primary diversion facility in the Delta originated at Rock Slough, about four miles southeast of Oakley. At Rock Slough, the water is lifted 127 feet by a series of four

pumping plants into the Contra Costa Canal (CCC), a 47.7-mile canal that terminates in Martinez Reservoir. Rock Slough diversion capacity of 350 cfs gradually decreases to 22 cfs at the terminus. Historically, actual Rock Slough pumping rates have ranged from about 50 to 250 cfs with seasonal variation. As part of the Los Vaqueros Project, CCWD also diverts from the Delta on Old River near Highway 4 at a fish-screened diversion facility with a capacity of 250 cfs. The Los Vaqueros Project was constructed to improve the delivered water quality and emergency storage reliability to CCWD's customers. The Old River facility allows CCWD to directly divert up to 250 cfs of CVP water to a blending facility with the existing CCC, in addition to the Rock Slough direct diversions. The Old River facility can also divert up to 200 cfs of CVP and Los Vaqueros water rights water for storage in the 100,000 AF Los Vaqueros Reservoir.

CVP and SWP Operations

Joint Point of Diversion

Reclamation and DWR maintain the ability to use/exchange each others CVP and SWP diversion capacity capabilities and points of diversion (Joint Point of Diversion or JPOD). Reclamation and DWR exercise that authority pursuant to permits granted by the State Water Resources Control Board. That right is currently granted in three stages, with Reclamation and DWR having to satisfy regulatory terms and conditions prior to implementing each stage. The stages are:

> Stage 1 – Use of JPOD to divert water to fulfill water service contracts with the Cross Valley Canal contractors and Musco Olive, and to recover export reductions taken to benefit fish.
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> Stage 2 – JPOD to divert water for any purpose authorized under the water right permits, as conditioned by State Water Resources Control Board Decision 1641.
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> Stage 3 – JPOD to divert water for any purpose authorized up to the physical capacity of the Delta Facilities.

All stages require a response plan to ensure that water levels in the southern Delta will not be lowered to the injury of water users in the southern Delta (Water Level Response Plan). All stages require a response plan to ensure that the water quality in the southern and central Delta will not be significantly degraded through operations of the JPOD to the injury of water users in the southern and central Delta. JPOD under excess conditions in the Delta is junior to Contra Costa Water District's water right permits for the Los Vaqueros Project.

Associated Maintenance, Monitoring, And Other On-Going Activities

Maintenance Activities

Maintenance and replacement means those routine activities that maintain the capacity and operational features of the existing water diversion and conveyance facilities described above including the Delta Cross Channel, C.W. Jones Pumping Plant, Tracy Fish Collection Facility, Contra Costa Diversion Facilities, and Head of Old River Barrier. Operations, maintenance and replacement activities include canal maintenance, placement of riprap for bankline protection and erosion control; vegetation management and weed control; O&M of electrical power supply facilities; and routine maintenance as needed to ensure continued operations and replacement of facility or system components when necessary to maintain system capacity and operational capabilities.

Monitoring Activities

Monitoring activities refers to those actions necessary for monitoring water quality and fisheries as conditioned by water rights permits and biological opinions, and those actions undertaken as a result of the CVPIA and agreements. This includes routine daily, annual or other periodic sampling of water quality constituents as well as trawls for various fish species in the Delta. Reclamation supports and participates in the Interagency Ecological Program through which significant monitoring efforts are implemented. Reclamation operates and maintains more than 20 monitoring stations in the Delta which provide near-realtime water quality data. As conservation strategies are implemented, the nature of, and requirements for, monitoring would be expected to change.